Notice of Allowability	Application No.	Applicant(s)	
	10/717,372	ZHAN ET AL.	
	Examiner	Art Unit	
	Carol S Tsai	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *11/19/2003*.

2. ☒ The allowed claim(s) is/are *1-22*.

3. ☒ The drawings filed on *19 November 2003* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 11/19/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-22 are allowed.

2. The following is an examiner's statement of reasons for allowance:

U. S. Publication 2004/0202573 to van den Brink et al. is the reference closest to the claimed invention. van den Brink et al. disclose reactor assembly for analysing the effluent stream from at least one flow-through reactor, comprising: at least one flow-through reactor for performing at least one chemical reaction, the reactor comprising a reaction chamber, comprising a reaction zone, the reaction chamber being connected to at least one reactor inlet for at least one reactant, upstream of the reaction zone, at least one reactor outlet for the effluent stream from the reaction zone, downstream of the reaction zone, at least one analyser for subjecting the effluent stream to an analysing procedure, each reactor outlet being connected to at least one analyser by an effluent conduit, wherein the reactor assembly further comprises at least one dilution fluid supply means, for adding at least one dilution fluid to the effluent stream, downstream of the reaction zone. However, van den Brink et al. do not teach a system for testing gas reactors, comprising: a test gas generator that provides at least one test gas into a primary flow line; a first furnace along the primary flow line, operable to heat the test gas; a first reactor location, switchable in and out of the primary gas line; an upstream branch valve, operable to route the primary flow line to either a first branch line or a second branch line; a second furnace on the first branch line; a second reactor location positioned to receive thermal output directly from the second furnace; a third furnace on the second branch line; a downstream branch valve joining the first branch line and the second

branch line; a third reactor location downstream of the downstream branch valve; and an injector subsystem operable to inject a gas or liquid into the first branch line upstream the second reactor location.; and including all of the other limitations in the respective independent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Karlsson et al. disclose a reactor for evaporating liquid feed and reacting said feed in the presence of catalyst to make product comprises a housing having at least one inlet and at least one outlet and encasing an evaporation zone and a reaction zone, an injector passing through the inlet and having an orifice in the evaporation zone for introducing a liquid feed, an insert containing packing for vaporizing the liquid feed where the packing is in the evaporation zone, a receptacle for retaining catalyst in the reaction zone and at least one heater associated with at least a portion of the reactor, wherein the injector orifice and the packing define a gap between the orifice and the packing sufficiently small to interfere with the formation of a drop at the orifice.

Tokunaga et al. disclose method for decreasing sulfuric acid and sulfuric anhydride present in combustion exhaust gas

Wiegand et al. disclose apparatus and methods for conducting gas

chromatography.

Schorfheide et al. disclose a method for starting up a cyclic or semi-cyclic reforming reactor after catalyst regeneration.

Klinedinst et al. disclose an apparatus and method for the low temperature deposition of S_iO_2 in a low pressure chemical vapor deposition system.

Pesa et al. disclose catalysts comprising the mixed oxides of ruthenium, palladium or platinum and alkali metals are provided which are useful in the subject process for the upgrading of synthesis gas, particularly for obtaining alkanes and alcohols having at least two carbon atoms, in addition to methane and methanol.

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. W. Tsai whose telephone number is (571) 272-2224. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax number for TC 2800 is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (571) 272-1585 or (571) 272-2800.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO

deposit account. Please identify the examiner and art unit at the top of your cover sheet.

Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.

Carol S. W. Tsai
Patent Examiner
Art Unit 2857

01/21/05